

REMARKS

The specification amendment corrects a minor spelling informality and conforms the terminology of the amended paragraph with corresponding terminology utilized in other parts of the specification.

Claims 1 through 11 were rejected under 35 U.S.C. § 112, first paragraph, based upon the written description requirement. The examiner, apparently believing that the language used in the claims must be based upon identical language appearing in the specification, concluded that the claim phrase "within the interior" was not included in the originally-filed specification and claims to describe the locations of the resistor heating elements or of the thermocouples. Reference was also made to drawing Figures 1, 2, and 3. And although the examiner noted that Figure 1 "appears to indicate a location of the heating elements and the thermocouples within and (sic) interstitial area between two layers," he also found that Figure 3 "appears to illustrate that the heating elements and thermocouples are arranged on the outer surface of the furnace walls," and concluded that "Figure 2 lacks enough detail to clarify that position of the heating elements and thermocouples." He requested that applicant "provide the exact location of literal support for the claim amendments, if it exists."

Initially, it should be noted that exact, literal correspondence between terms used in the claims and terms used in the specification is not required. In that regard, the Court of Appeals for the Federal Circuit has spoken as follows relative to that matter:

In order to satisfy the written description requirement, the disclosure as originally filed need not provide *in haec verba* support for the claimed subject matter at issue. See *Fujikawa v. Wattanasin*, 93 F.3d 1559, 1570, 39 USPQ2d 1895, 1904 (Fed. Cir. 1996). The requirement is met if "the disclosure of the application relied upon reasonably conveys to the artisan that the inventor had possession at that time of the later claimed subject matter." *Ralston Purina Co. v. Far-Mar-Co, Inc.*, 772 F.2d 1570, 1575, 227 USPQ 177, 179 (Fed. Cir. 1985) (internal quotations omitted).

Lampi Corp. v. American Power Products, Inc., 56 U.S.P.Q.2d 1445 (Fed. Cir. 2000)

And,

As also pointed out in *Smith* and as admitted by the board, "the claimed subject matter need not be described *in haec verba* in the specification in order for that specification to satisfy the description requirement." The fact, therefore, that the exact words here in question, "not permanently fixed", are not in the specification is not important. From the wording of the examiner's rejection it would seem that he did not know that; at least he wanted to be shown an "unequivocal teaching" that the microcapsules are not permanently fixed. The board, on the other hand, launched into a discussion of whether the meaning of the words is clear and whether the specification contains "guidelines" as to what they mean. It felt the words were open to "different interpretation," which goes to the scope of the phrase rather than support for it. We deem this to be an irrelevant inquiry. These are common, garden variety words known to every English-speaking person. The Associate Solicitor who argued this appeal (who was not the author of the brief) said he had no difficulty understanding their meaning, nor do we.

In re Wright, 9 U.S.P.Q.2d 1649 (Fed. Cir. 1989).

The present specification and claims satisfy the requirement that the disclosure reasonably convey to the artisan that the inventor had possession of the claimed subject matter. In that regard, the statute only requires that the written description "enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same." In the

present case, the originally filed specification stated at page 3, lines 3 and 4, that "heating elements are provided in the temperature equalization zone walls, bottom and roof," and at page 4, third full paragraph, that "resistor heating elements are provided in the walls 12, 13, bottom 14 and roof 15 of the temperature equalization zone" (emphasis added). Clearly, any person skilled in the art, indeed even a person not skilled in the art, would understand that the resistor heating elements were located within the respective walls, which means inside the walls or in the interior of the walls. As the Federal Circuit noted, "These are common, garden variety words known to every English-speaking person."

With regard to the location of the thermocouples, the originally-filed specification states at page 5, lines 2 through 4, that: "Thermocouples 20-23 can be separate from the resistor heating elements or, alternatively, they can be integrated with the resistor heating elements." And if they are integrated with the heating elements, the thermocouples would also clearly be located within the interior of the respective walls of the temperature equalization zone. Further, even though the thermocouples are within the interior of the respective walls, they, in fact, measure the temperature at the channel wall inner surface because after a steady-state condition is reached, "the temperature gradient, after an initial warm-up period in the temperature equalization zone, through the material 3 that forms the channel will be zero or close to zero." (See, specification, paragraph bridging pages 6 and 7). One skilled in the art would thus understand from the specification that the thermocouples were within the walls.

In the present application, the specification employs the word "in" in connection with the location of the heating elements, and by extension the location of the thermocouples, whereas the claims employ the word "within." But those terms are synonymous with each other. In that regard, attached is a photocopy of page 678 of the *Random House Webster's College Dictionary*, Copyright 1991, in which the term "in" is defined as "10. on the inside, within." Consequently, because "inside" and "interior" are synonymous, and because "in" is synonymous with "within," the claim phrase "within the interior" is the functional equivalent of the specification term "in," and although there is not identity between the claim terms and the specification terms, it is respectfully urged that there is direct correspondence between them, correspondence that is sufficient to enable the person skilled in the relevant art to make and use the claimed invention. Thus, the claims conform with the requirements of the statute, and it is therefore requested that the section 112 rejection be withdrawn.

Claims 1 through 4, 6 through 9, and 11 were rejected as obvious based upon the Monks et al. and Jung references. In that regard, although the Monks et al. reference discloses a melter for a glass-melting furnace, it discloses only the overall structure of the melter chamber. As acknowledged by the examiner, that reference does not disclose the use of thermocouples to monitor and control the temperature of the walls. Moreover, that reference does not disclose any temperature measuring means whatsoever, nor does it disclose where such measurement means might be located relative to the melter structure, nor does it even mention temperature measurement.

The Jung reference was cited by the examiner to show the use of thermocouples to measure temperature in electrically heated units. However, Jung discloses an electric furnace in the form of a chamber, within the interior volume of which chamber are positioned pieces T to be heated, along with heating devices and temperature measurement devices. The heating devices and the temperature measuring devices are each positioned "near the piece T, and near the heating devices W located in the furnace." (Jung, col. 2, lines 26 through 28).

Although the examiner suggested that Jung teaches "thermocouples to measure the temperature on the roof, walls and floor of electric resistance furnaces" (emphasis added), that reference does not teach that location of the thermocouples. Instead, it consistently teaches placing the thermocouples "near" the pieces to be heated, not within the furnace walls, nor on the roof, walls, and floor of the furnace, as suggested by the examiner. In that regard, see Jung col. 1, lines 51 through 53; col. 2, lines 25 through 29; col. 4, lines 35 through 38; and the drawing, which shows thermocouples a and b not in the walls but inwardly thereof, "near" the piece T to be heated.

In addition to acknowledging that Monks et al. does not disclose using thermocouples to monitor wall temperature, the examiner also acknowledged that, "Jung did not teach that the thermocouples were within the interior of the furnace walls." But without any teaching or suggestion in either of Monks et al. or Jung of a within-the-wall location for the thermocouples, he concluded that such a location would have been obvious.

It is respectfully suggested that without the present disclosure, the references themselves provide no clue or suggestion that would lead one having only ordinary skill in the art to combine them in any particular way, let alone to combine them to arrive at the present invention. And even if their teachings were to be combined, because neither reference teaches nor suggests the thermocouple location as claimed, the combination of those references cannot be said to teach the invention as claimed.

Because the only motivation to combine the references as the examiner has done is the present disclosure, the combination of the references is improper. Indeed, to use against an inventor that which only he has taught amounts to an improper hindsight reconstruction of the prior art based upon the inventors' own discovery. It involves the use of one's disclosure as a road map or a template upon which to base the selection and assemblage of discrete references. But even when one studies the two references relied upon, one quickly discovers that there is no link that would lead one to combine their teachings, and that, in any event, the combination of the references does not lead one to the claimed invention. Clearly, the combination of the Monks et al. and Jung references does not even remotely suggest the invention as claimed in either of independent claims 1 and 7, from which the remaining claims depend. Thus, the rejection of claims 1 through 4, 6 through 9, and 11 as obvious based upon the combination of the Monks et al. and Jung references is not justified, and it is respectfully requested to be withdrawn.

Claims 5 and 10 were rejected as obvious based upon a

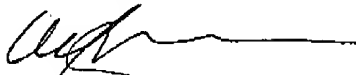
combination of the Monks et al., Jung, and Thomson references. Thomson was cited as showing band heaters. But instead of band heaters, as suggested by the examiner, that reference discloses a wound heater structure (see Thomson, page 1, lines 74 and 75) that is defined by wire windings that connect with a secondary winding of a transformer. Additionally, the wound heaters are carried on the outer surface of outer insulating layer 3 (see Thomson, page 1, lines 70 through 75), not within the sidewall of tubular portion 1. Moreover, Thomson does not disclose either temperature measurement or the location of temperature measuring devices. And because claims 5 and 10 depend directly from claims 1 and 7, respectively, claims 5 and 10 are patentably distinguishable over the combination of the Monks et al. and Jung references, and in view of the foregoing distinctions also the combination therewith of the Thomson reference.

Based upon the foregoing amendments and remarks, the claims as they now stand in the application are believed clearly to be in allowable form. The specification complies with the written description requirement, and the claims patentably distinguish over the disclosures contained in the references that were cited and relied upon by the examiner, whether those references be considered in the context of 35 U.S.C. § 102 or of 35 U.S.C. § 103. Consequently, this application is believed to be in condition for allowance, and reconsideration and reexamination of the application is respectfully requested with a view toward the issuance of an early Notice of Allowance.

The examiner is cordially invited to telephone the undersigned attorney if this amendment raises any questions, so that any such question can be

quickly resolved in order that the present application can proceed toward allowance.

Respectfully submitted,



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Attachment: *Random House Webster's College Dictionary*, title page, copyright page, and page 678, Copyright 1991.

In remembrance
Stuart Berg Flexner
March 22, 1928–December 3, 1990

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